

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-21. (Cancelled)

22. (New):

A residential gateway to receive channel associated signals (CAS) from a PBX switch, the residential gateway comprising:

a call control device to communicate with a call agent using gateway control protocol signals;

a management module; and

a CAS module coupled to the call control device, the management module, and the PBX switch, the CAS module

to receive a table from the management module, the table including a plurality of entries, each of the plurality of entries including a first line signaling state, a second line signaling state, a first time duration, and an event,

to receive the channel associated signals from the PBX switch,

to recognize a change of line signaling state from a former state to a new state,

to find a first entry in the table where the former state is the same as the first line signaling state and the new state is the same as the second line signaling state,

to set a timer for the first time duration of the first entry, and

to send an indication of the event of the first entry to the call control device if the timer expires before the CAS module recognizes a further change of line signaling state.

23. (New):

The residential gateway of claim 22, wherein:

each of the plurality of entries further includes a second time duration; and

if the CAS module recognizes a further change of line signaling state returning to the former state before the timer expires, the CAS module is further

to find a second entry in the table where the former state is the same as the first line signaling state, the new state is the same as the second line signaling state, and a time measured by the timer is greater than the first time duration and less than the second time duration, and

to send an indication of the event of the second entry to the call control device.

24. (New):

The residential gateway of claim 22, wherein the management module is to receive entries for the table by download from a user.

25. (New):

The residential gateway of claim 24, wherein the CAS module is further to receive the downloaded entries for the table when the associated signaling state is an idle state.

26. (New):

The residential gateway of claim 24, wherein the management module is to receive the entries for the table as a binary file, and the residential gateway further comprises a parser program to parse the binary file and create the table.

27. (New):

The residential gateway of claim 22, wherein the table defines a telephony protocol.

28. (New):

A method for receiving channel associated signals (CAS) from a PBX switch, the method comprising:

receiving a table including a plurality of entries, each of the plurality of entries including a first line signaling state, a second line signaling state, a time duration, and an event;

recognizing a change of line signaling state in the channel associated signals from a former state to a new state;

finding an entry in the table where the former state is the same as the first line signaling state and the new state is the same as the second line signaling state;

setting a timer for the time duration of the entry; and

sending an indication of the event to a call control device if the timer expires before a further change of line signaling state is recognized.

29. (New):

The method of claim 28, wherein:

each of the plurality of entries further includes a second time duration; and

the method further comprises:

finding a second entry in the table where the former state is the same as the first line signaling state, the new state is the same as the second line signaling state, and a time measured by the timer is greater than the first time duration and less than the second time duration, if a further change of line signaling state returning to the former state is recognized before the timer expires, and

sending an indication of the event of the second entry to the call control device.

30. (New):

The method of claim 28, further comprising downloading entries for the table from a user.

31. (New):

The method of claim 30, further comprising receiving the downloaded entries for the table when the associated signaling state is an idle state.

32. (New):

The method of claim 30, wherein downloading entries for the table further comprises downloading the entries for the table as a binary file, and the method further comprises parsing the binary file to create the table.

33. (New):

An apparatus comprising:

means for receiving a table including a plurality of entries, each of the plurality of entries including a first line signaling state, a second line signaling state, a time duration, and an event;

means for recognizing a change of line signaling state in the channel associated signals from a former state to a new state;

means for finding an entry in the table where the former state is the same as the first line signaling state and the new state is the same as the second line signaling state;

means for setting a timer for the time duration of the entry; and

means for sending an indication of the event to a call control device if the timer expires before a further change of line signaling state is recognized.

34. (New):

The apparatus of claim 33, wherein:

each of the plurality of entries further includes a second time duration; and

the apparatus further comprises:

means for finding a second entry in the table where the former state is the same as the first line signaling state, the new state is the same as the second line signaling state, and a time measured by the timer is greater than the first time duration and less than the second time duration, if a further change of line signaling state returning to the former state is recognized before the timer expires, and

means for sending an indication of the event of the second entry to the call control device.

35. (New):

The apparatus of claim 33, further comprising means for downloading entries for the table from a user.

36. (New):

The apparatus of claim 35, further comprising means for receiving the downloaded entries for the table when the associated signaling state is an idle state.

37. (New):

The apparatus of claim 35, wherein the means for downloading entries for the table further comprises means for downloading the entries for the table as a binary file, and the apparatus further comprises means for parsing the binary file to create the table.

38. (New):

A computer readable medium having instructions embodied thereon, which, when executed by a processing system, causes the system to perform a method comprising:

receiving a table including a plurality of entries, each of the plurality of entries including a first line signaling state, a second line signaling state, a time duration, and an event;

recognizing a change of line signaling state in the channel associated signals from a former state to a new state;

finding an entry in the table where the former state is the same as the first line signaling state and the new state is the same as the second line signaling state;

setting a timer for the time duration of the entry; and

sending an indication of the event to a call control device if the timer expires before a further change of line signaling state is recognized.

39. (New):

The computer readable medium of claim 38, wherein:

each of the plurality of entries further includes a second time duration; and

the method further comprises:

finding a second entry in the table where the former state is the same as the first line signaling state, the new state is the same as the second line signaling state, and a time measured by the timer is greater than the first time duration and less than the second time duration, if a further change of line signaling state returning to the former state is recognized before the timer expires, and

sending an indication of the event of the second entry to the call control device.

40. (New):

The computer readable medium of claim 38, wherein the method further comprises downloading entries for the table from a user.

41. (New):

The computer readable medium of claim 40, wherein the method further comprises receiving the downloaded entries for the table when the associated signaling state is an idle state.

42. (New):

The computer readable medium of claim 40, wherein downloading entries for the table further comprises downloading the entries for the table as a binary file, and the method further comprises parsing the binary file to create the table.